Form 517002
11-02

Iowa Department of Transportation

RISK ASSESSMENT FOR BRIDGES (CULVERTS)
(For 20' Span and Longer Structures)

LOCATION

County _____ Civil Twp. _____ Sec. _____ Twp. _____ Range _____
Over (River, Cr., Dr. Ditch) _____ Road No. _____
Project No. _____ Design Number _____ FHWA No. _____
Assessment Prepared by _____ Date _____

1. HYDROLOGIC EVALUATION

A. Nearest Gaging Station on this stream: _____ (None ☐)
B. Are flood studies available on this stream: Yes ☐ No ☐
C. Flood Data:
Q_{10} _____ cfs Est. Bkwtr. _____ ft. Q_{25} _____ cfs Est. Bkwtr. _____ ft.
Q_{50} _____ cfs Est. Bkwtr. _____ ft. Q_{100} _____ cfs Est. Bkwtr. _____ ft.
Q_{500} _____ cfs or Overtopping _____ cfs (Whichever is lower)
Drainage Area _____ Method Used to compute Q _____
D. Does the crossing require outside agency approval? Yes ☐ No ☐
List Agencies: _____

2. PROPERTY RELATED EVALUATIONS

A. Damage potential: Low ☐ Moderate ☐ High ☐
List buildings in flood plain _____ Location _____
Floor Elevation _____
Upstream Land Use _____
Anticipate any Change? Yes ☐ No ☐
If yes, describe anticipated change: _____
B. Any flood zoning? (Flood Insurance Studies (FIS), etc.) Yes ☐ No ☐
Type of Study _____
Base flood elevation _____ (100 year)
Regulatory floodway width _____ (As noted in FIS Studies)
Comments _____

3. ENVIRONMENTAL CONSIDERATIONS

A. List commitments in Environmental Documents which affect hydraulic design (None ☐)

4. HIGHWAY AND BRIDGE (CULVERT) RELATED EVALUATIONS

A. Note any outside features which might affect Stage, Discharge, or Frequency.
Levees ☐ Aggradation/Degradation ☐ Reservoirs ☐ Diversions ☐
Drainage Dist. ☐ Navigation ☐ Backwater from another source ☐
Other _____
Explanation _____

B. Proposed Roadway Overflow Section (None ☐) Length _____ Elev. _____ Frequency (if < 500 yr.): _____ yr.
Embankment: Soil Type _____ Type Slope Cover _____
Comments: _____

5. MISCELLANEOUS COMMENTS

A. Is there unusual scour potential? Yes ☐ No ☐ Protection Needed? Yes ☐ No ☐
B. Are banks stable? Yes ☐ No ☐ Protection Needed? Yes ☐ No ☐
C. Are spur dikes needed? Yes ☐ No ☐
D. Does stream carry appreciable amount of ice? Yes ☐ No ☐ Elevation of high ice _____
E. Does stream carry appreciable amount of large driftwood? Yes ☐ No ☐
F. Comments _____

_____

_____

6. TRAFFIC RELATED EVALUATIONS

A. Present Year _____ Traffic Count _____ VPD % Trucks _____
B. Design Year _____ Traffic Count _____ VPD % Trucks _____
C. Emergency Route Yes ☐ No ☐ School Bus Route Yes ☐ No ☐ Mail Route Yes ☐ No ☐
D. Detour Available? Yes ☐ No ☐ Length of Detour _____ Miles
Comments _____

_____

7. PRESENT FACILITY

A. Low Roadway Elevation _____
B. Bridge Hydraulic Capacity at point of overtopping _____ cfs Frequency (if Less than Q_{500}) _____ yr.
Roadway Overflow: Length _____ ft. Elevation _____ ft.
C. Is flash flooding likely? Yes ☐ No ☐
Comments _____

_____

8. ALTERNATIVES

A. Recommended Design _____
Low Superstructure (Bridge _____ Top Opening (culvert) _____
Low Roadway Grade _____
Bridge Waterway Opening _____ Culvert Opening _____
B. Were other hydraulic alternates considered? Yes ☐ No ☐
Discussion _____

_____

_____

_____

_____

C. Is this assessment commensurate with the risks identified? Yes ☐ No ☐
or is further analysis needed? Yes ☐ No ☐